
Appendix C: Backplane cabling in NT8D11 and NT8D37 modules

In the backplane configurations in NT8D11 (AC and DC vintage) CE/PE Modules and NT8D37 (AA and DC vintage) IPE Modules, some slots on the backplane are fully cabled to accommodate 24 tip and ring pairs (three cable connectors). Most of the backplane slots, however, accommodate 16 pairs (two cable connectors).

In the 7-cable configuration for the backplane in the NT8D11 CE/PE Module, cables D, G, and L are not used. Those cables are used in the 10-cable expanded configuration (NT8D11BC, NT8D11ED, and later vintage modules).

[Table 121](#) lists cable connections for the 7-cable configuration. [Figure 189](#) shows the backplane slots, and [Figure 190](#) shows the external I/O panel designations.

In the 12-cable configuration for the backplane in the NT8D37 IPE Module, cables D, H, N, and U are not used. Those cables are used in the 16-cable expanded configuration (NT8D37BA, EC, and later vintage modules).

[Table 122](#) lists cable connections in the 12-cable configuration. [Figure 191](#) shows the backplane slots, and [Figure 192](#) shows the external I/O panel designations.

Table 121
NT8D11 cable connections for 7-cable configuration

Backplane slots-shroud rows			I/O panel/cable designation
L0-1	L0-2	L0-3	A
L1-1	L1-2	L2-1	B
L2-2	L3-1	L3-2	C
L4-1	L4-2	L5-1	E
L5-2	L6-1	L6-2	F
L7-1	L7-2	L8-1	H
L8-2	L9-1	L9-2	K

Note: Cables D, G, and L are not used in this configuration.

Figure 189
NT8D11 backplane cable designations for 7-cable configuration

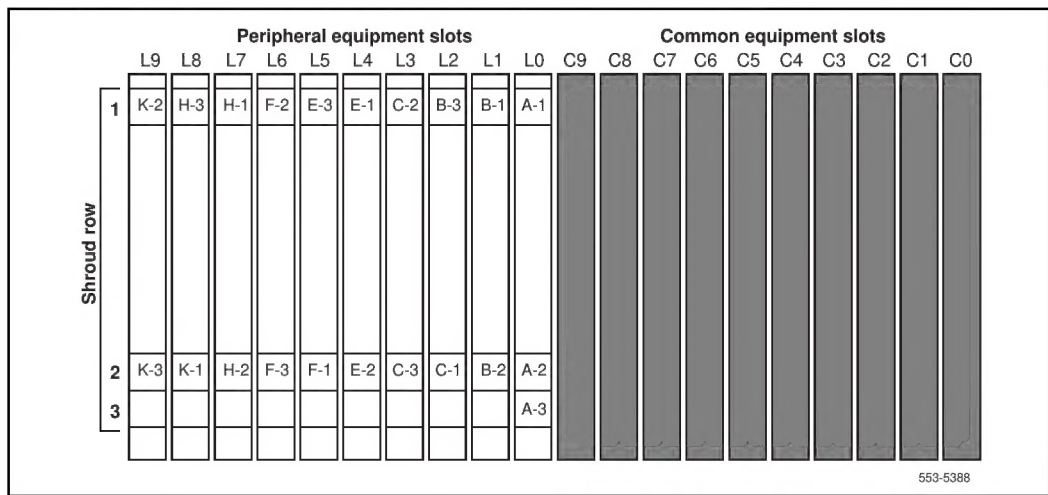


Figure 190
NT8D11 CE/PE Module I/O panels for 7-cable configuration

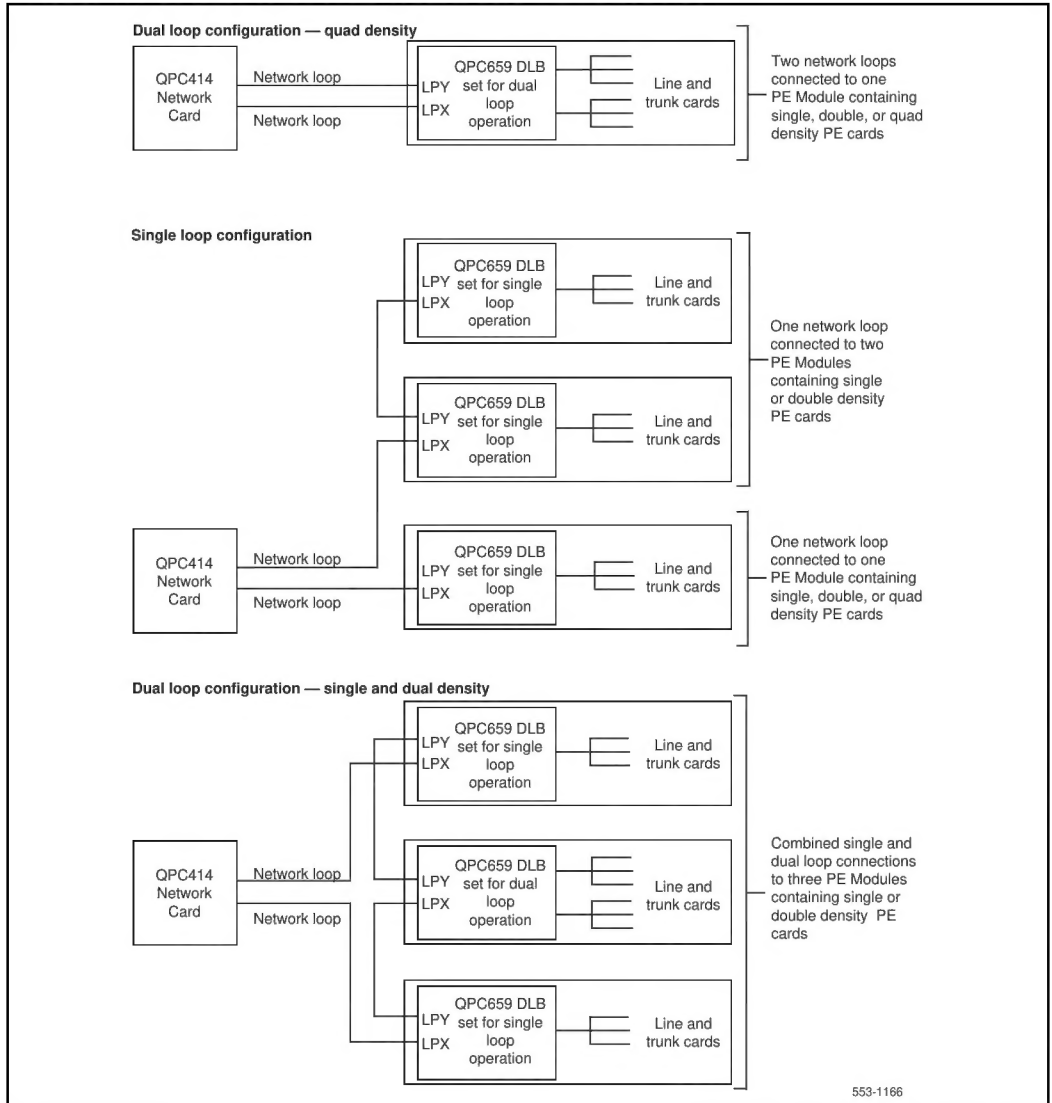


Table 122
NT8D37 cable connections for 12-cable configuration

Backplane slots-shroud rows			I/O panel/cable designation
L0-1	L0-2	L0-3	A
L1-1	L1-2	L2-1	B
L2-2	L3-1	L3-2	C
L4-1	L4-2	L4-3	E
L5-1	L5-2	L6-1	F
L6-2	L7-1	L7-2	G
L8-1	L8-2	L8-3	K
L9-1	L9-2	L10-1	L
L10-1	L11-2	L11-2	M
L12-1	L12-2	L12-3	R
L13-1	L13-2	L14-1	S
L14-2	L15-1	L15-2	T

Note: Cables D, H, N, and U are not used in this configuration.

Figure 191
NT8D37 backplane cable designations for 12-cable configuration

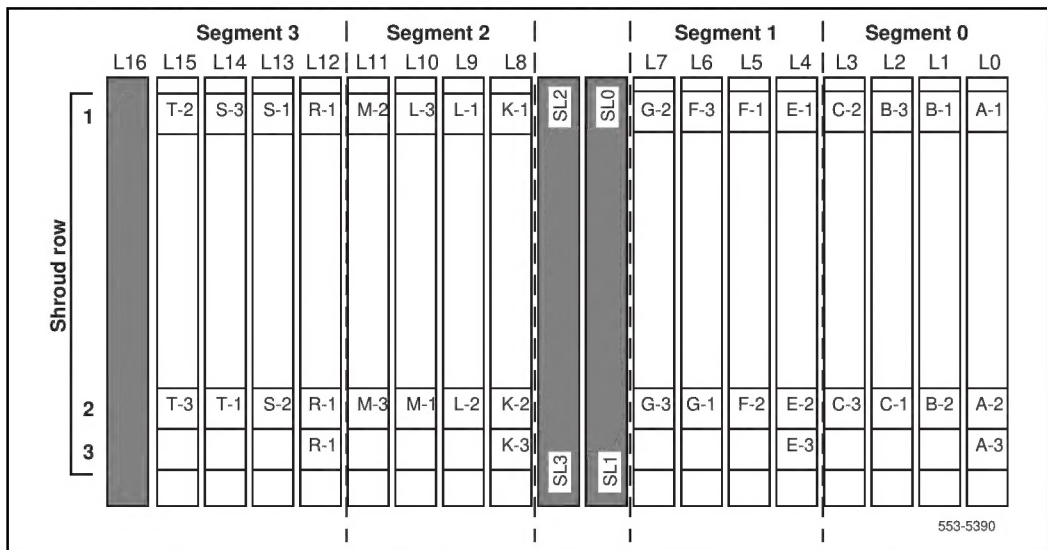
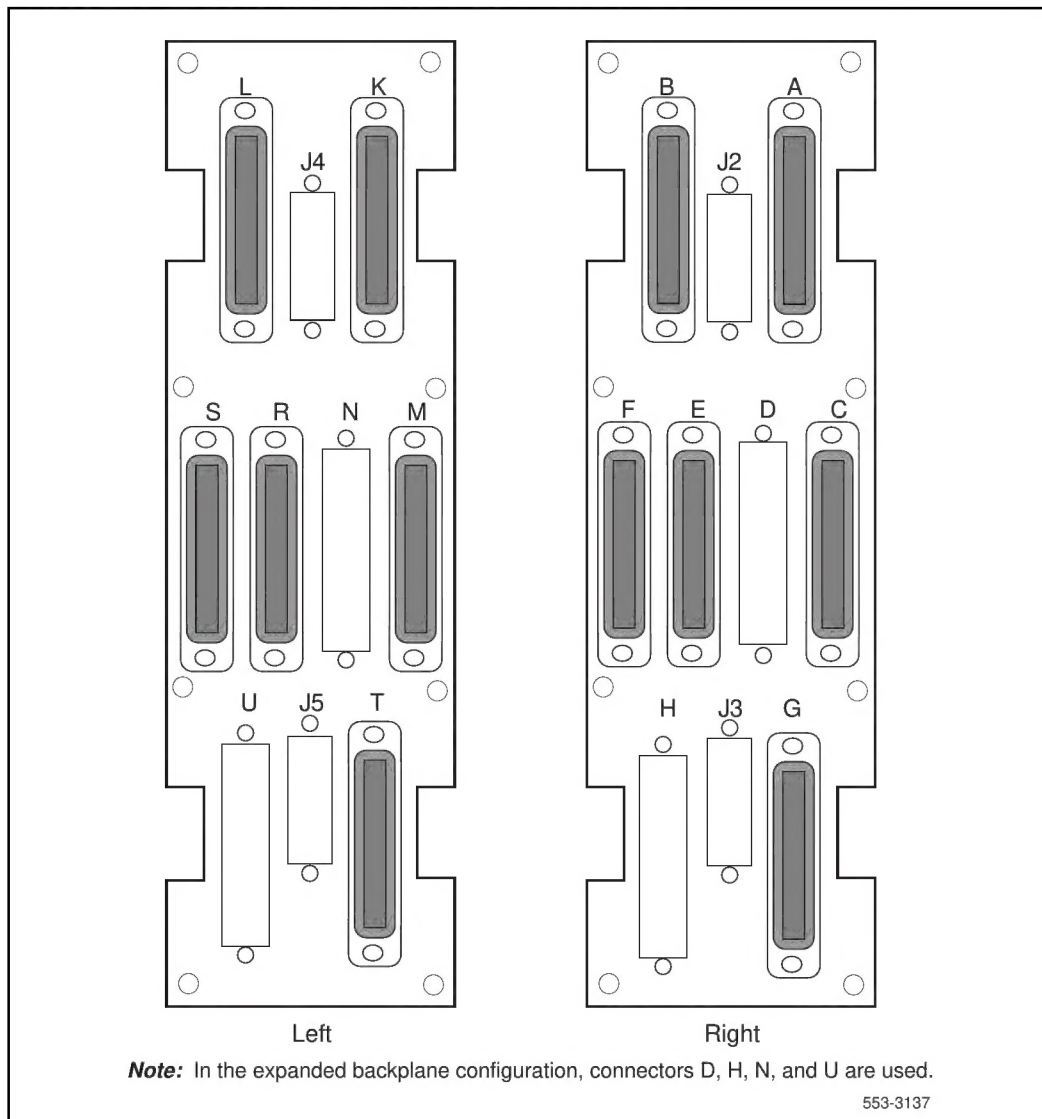


Figure 192
NT8D37 IPE Module I/O panels for 12-cable configuration



I/O panel connections

Note: The corner vertical channels in the rear of the module are outside of the EMI shield. Cables in those vertical channels must be shielded, and must enter and exit the EMI-shielded area through I/O panels and adapters.

WARNING

Electrical shock hazard

Tip, ring, A, B, E, M, ESC, and ESCG connections may be considered to be Telecommunications Network Voltages (TNV).

- 1 Select an appropriate number of NE-A25B (or equivalent) cables long enough to run from the I/O panels on the rear of the module to the MDF.
- 2 Attach a tag that shows the module number and the I/O connector designation to both ends of each cable.
- 3 Connect each cable to the appropriate connector on the I/O panel and run the cables to the MDF.
- 4 Terminate each cable on the cross-connect block designated with the appropriate module number.

Note: Refer to “Planning and designating the Modular Distribution Frame (MDF)” on page 69 for information on the MDF layout.

- 5 Make sure all cables are neatly run, properly seated, and secured with cable ties.

Connecting lines and trunks

Throughout this procedure, make sure wiring is not reversed and is on the proper terminals. Allow enough slack in the wiring to allow tracing and to reconnect wires if they break at the terminal.

- 1** Extend incoming wiring (such as cables from the central office or wiring from a recorded announcement machine) to the MDF and terminate them on separate connecting blocks.
- 2** Assign and record terminal numbers (TNs) for each line or trunk. Determine the location of the line or trunk connection and its assigned TN from the work order or assignment records.
- 3** Connect each line and trunk to the TN using cross-connecting wire (typically 24 AWG type-Z wire). [Table 123](#) lists pair-termination tables for line and trunk cards in NT8D11 (AC and DC vintage) CE/PE modules and NT8D37 (AA and DC vintage) IPE Modules.
- 4** Cross-connect incoming wiring and lines and trunks at the MDF.

Table 123
Line and trunk pair-termination tables

	NT8D11 CE/PE Module	NT8D37 IPE Module
Line cards	Tables 124 through 126	Tables 134 through 136
Trunk cards	NT8D14 Universal Trunk Card: Tables 126, 127 NT8D15 E&M Trunk Card: Tables 128 through 133	NT8D14 Universal Trunk Card: Tables 137 through 139 NT8D15 E&M Trunk Card: Tables 140 through 148

Table 124
NT8D11 CE/PE Module: line card pair-terminations for connectors A, B, E, and H (7-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit 16 per card
			A	B	E	H	
1T/1R	26/1	W-BL/BL-W	slot 0	slot 1	slot 4	slot 7	0
2T/2R	27/2	W-O/O-W					1
3T/3R	28/3	W-G/G-W					2
4T/4R	29/4	W-BR/BR-W					3
5T/5R	30/5	W-S/S-W					4
6T/6R	31/6	R-BL/BL-R					5
7T/7R	32/7	R-O/O-R					6
8T/8R	33/8	R-G/G-R					7
9T/9R	34/9	R-BR/BR-R					8
10T/10R	35/10	R-S/S-R					9
11T/11R	36/11	BK-BL/BL-BK					10
12T/12R	37/12	BK-O/O-BK					11
13T/13R	38/13	BK-G/G-BK					12
14T/14R	39/14	BK-BR/BK-BR					13
15T/15R	40/15	BK-S/S-BK					14
16T/16R	41/16	Y-BL/BL-Y					15
17T/17R	42/17	Y-O/O-Y		slot 2	slot 5	slot 8	0
18T/18R	43/18	Y-G/G-Y					1
19T/19R	44/19	Y-BR/BR-Y					2
20T/20R	45/20	Y-S/S-Y					3
21T/21R	46/21	V-BL/BL-V					4
22T/22R	47/22	V-O/V-O					5
23T/23R	48/23	V-G/G-V					6
24T/24R	49/24	V-BR/BR-V					7
25T/25R	50/25	V-S/S-V					Spare

Table 125**NT8D11 CE/PE Module: line card pair-terminations for connectors C, F, and K (7-cable)**

Pair	Pins	Pair color	I/O panel connector			Unit 16 per card
			C	F	K	
1T/1R	26/1	W-BL/BL-W	slot 2	slot 5	slot 8	8
2T/2R	27/2	W-O/O-W				9
3T/3R	28/3	W-G/G-W				10
4T/4R	29/4	W-BR/BR-W				11
5T/5R	30/5	W-S/S-W				12
6T/6R	31/6	R-BL/BL-R				13
7T/7R	32/7	R-O/O-R				14
8T/8R	33/8	R-G/G-R				15
9T/9R	34/9	R-BR/BR-R	slot 3	slot 6	slot 9	0
10T/10R	35/10	R-S/S-R				1
11T/11R	36/11	BK-BL/BL-BK				2
12T/12R	37/12	BK-O/O-BK				3
13T/13R	38/13	BK-G/G-BK				4
14T/14R	39/14	BK-BR/BK-BR				5
15T/15R	40/15	BK-S/S-BK				6
16T/16R	41/16	Y-BL/BL-Y				7
17T/17R	42/17	Y-O/O-Y				8
18T/18R	43/18	Y-G/G-Y				9
19T/19R	44/19	Y-BR/BR-Y				10
20T/20R	45/20	Y-S/S-Y				11
21T/21R	46/21	V-BL/BL-V				12
22T/22R	47/22	V-O/V-O				13
23T/23R	48/23	V-G/G-V				14
24T/24R	49/24	V-BR/BR-V				15
25T/25R	50/25	V-S/S-V				Spare

Table 126

NT8D11 CE/PE Module: NT8D14 pair-terminations for connectors A, B, E, and H (7-cable)

Lead designations			Pins	Pair color	I/O panel connectors				Unit
RAN mode	Paging mode	Other modes			A	B	E	H	
0T/0R CP/MB	0T/0R A/PG	0T/0R	26/1 27/2	W-BL/BL-W W-O/O-W	slot 0	slot 1	slot 4	slot 7	0
1T/1R CP/MB	1T/1R A/PG	1T/1R	28/3 29/4	W-G/G-W W-BR/BR-W					1
2T/2R CP/MB	2T/2R A/PG	2T/2R	30/5 31/6	W-S/S-W R-BL/BL-R					2
3T/3R CP/MB	3T/3R A/PG	3T/3R	32/7 33/8	R-O/O-R R-G/G-R					3
4T/4R CP/MB	4T/4R A/PG	4T/4R	34/9 35/10	R-BR/BR-R R-S/S-R					4
5T/5R CP/MB	5T/5R A/PG	5T/5R	36/11 37/12	BK-BL/BL-BK BK-O/O-BK					5
6T/6R CP/MB	6T/6R A/PG	6T/6R	38/13 39/14	BK-G/G-BK BK-BR/BK-BR					6
7T/7R CP/MB	7T/7R A/PG	7T/7R	40/15 41/16	BK-S/S-BK Y-BL/BL-Y					7
0T/0R CP/MB	0T/0R A/PG	0T/0R	42/17 43/18	Y-O/O-Y Y-G/G-Y	spare	slot 2	slot 5	slot 8	0
1T/1R CP/MB	1T/1R A/PG	1T/1R	44/19 45/20	Y-BR/BR-Y Y-S/S-Y					1
2T/2R CP/MB	2T/2R A/PG	2T/2R	46/21 47/22	V-BL/BL-V V-O/V-O					2
3T/3R CP/MB	3T/3R A/PG	3T/3R	48/23 49/24	V-G/G-V V-BR/BR-V					3
Note: Use LD 14 to select trunk termination impedance (600 ohm or 900 ohm). See the <i>X11 input/output guide</i> for information on LD 14.									

Table 127**NT8D11 CE/PE Module: NT8D14 pair-terminations for connectors C, F, and K (7-cable)**

Lead designations			Pins	Pair color	I/O panel connectors			Unit
RAN mode	Paging mode	Other modes			C	F	K	
0T/0R CP/MB	0T/0R A/PG	0T/0R	26/1 27/2	W-BL/BL-W W-O/O-W	slot 2	slot 5	slot 8	4
1T/1R CP/MB	1T/1R A/PG	1T/1R	28/3 29/4	W-G/G-W W-BR/BR-W				5
2T/2R CP/MB	2T/2R A/PG	2T/2R	30/5 31/6	W-S/S-W R-BL/BL-R				6
3T/3R CP/MB	3T/3R A/PG	3T/3R	32/7 33/8	R-O/O-R R-G/G-R				7
4T/4R CP/MB	4T/4R A/PG	4T/4R	34/9 35/10	R-BR/BR-R R-S/S-R	slot 3	slot 6	slot 9	0
5T/5R CP/MB	5T/5R A/PG	5T/5R	36/11 37/12	BK-BL/BL-BK BK-O/O-BK				1
6T/6R CP/MB	6T/6R A/PG	6T/6R	38/13 39/14	BK-G/G-BK BK-BR/BK-BR				2
7T/7R CP/MB	7T/7R A/PG	7T/7R	40/15 41/16	BK-S/S-BK Y-BL/BL-Y				3
0T/0R CP/MB	0T/0R A/PG	0T/0R	42/17 43/18	Y-O/O-Y Y-G/G-Y				4
1T/1R CP/MB	1T/1R A/PG	1T/1R	44/19 45/20	Y-BR/BR-Y Y-S/S-Y				5
2T/2R CP/MB	2T/2R A/PG	2T/2R	46/21 47/22	V-BL/BL-V V-O/V-O				6
3T/3R CP/MB	3T/3R A/PG	3T/3R	48/23 49/24	V-G/G-V V-BR/BR-V				7
Note: Use LD 14 to select trunk termination impedance (600 ohm or 900 ohm). See the <i>X11 input/output guide</i> for information on LD 14.								

Table 128
NT8D11 CE/PE Module: NT8D15 2-wire paging mode pair-terminations for connectors A, B, E, and H (7-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit
			A	B	E	H	
0T/0R A/PG	26/1 29/4	W-BL/BL-W W-BR/BR-W	slot 0	slot 1	slot 4	slot 7	0
1T/1R A/PG	30/5 33/8	W-S/S-W R-G/G-R					1
2T/2R A/PG	34/9 37/12	R-BR/BR-R BK-O/O-BK					2
3T/3R A/PG	38/13 41/16	BK-G/G-BK Y-BL/BL-Y					3
0T/0R A/PG	42/17 45/20	Y-O/O-Y Y-S/S-Y	spare	slot 2	slot 5	slot 8	0
1T/1R A/PG	46/21 49/24	V-BL/BL-V V-BR/BR-V					1

Table 129
NT8D11 CE/PE Module: NT8D15 2-wire paging mode pair-terminations for connectors C, F, and K (7-cable)

Pair	Pins	Pair color	I/O panel connectors			Unit
			C	F	K	
2T/2R A/PG	26/1 29/4	W-BL/BL-W W-BR/BR-W	slot 2	slot 5	slot 8	2
3T/3R A/PG	30/5 33/8	W-S/S-W R-G/G-R				3
0T/0R A/PG	34/9 37/12	R-BR/BR-R BK-O/O-BK	slot 3	slot 6	slot 9	0
1T/1R A/PG	38/13 41/16	BK-G/G-BK Y-BL/BL-Y				1
2T/2R A/PG	42/17 45/20	Y-O/O-Y Y-S/S-Y				2
3T/3R A/PG	46/21 49/24	V-BL/BL-V V-BR/BR-V				3

Table 130**NT8D11 CE/PE Module: NT8D15 2-wire type 1 mode pair-terminations for connectors A, B, E, and H (7-cable)**

Pair	Pins	Pair color	I/O panel connectors				Unit
			A	B	E	H	
0T/0R E/M	26/1 28/3	W-BL/BL-W W-G/G-W	slot 0	slot 1	slot 4	slot 7	0
1T/1R E/M	30/5 32/7	W-S/S-W R-O/O-R					1
2T/2R E/M	34/9 36/11	R-BR/BR-R BK-BL/BL-BK					2
3T/3R E/M	38/13 40/15	BK-G/G-BK BK-S/S-BK					3
0T/0R E/M	42/17 44/19	Y-O/O-Y Y-BR/BR-Y	spare	slot 2	slot 5	slot 8	0
1T/1R E/M	46/21 48/23	V-BL/BL-V V-G/BR-G					1

Table 131**NT8D11 CE/PE Module: NT8D15 2-wire type 1 mode pair-terminations for connectors C, F, and K (7-cable)**

Pair	Pins	Pair color	I/O panel connectors			Unit
			C	F	K	
2T/2R E/M	26/1 28/3	W-BL/BL-W W-G/G-W	slot 2	slot 5	slot 8	2
3T/3R E/M	30/5 32/7	W-S/S-W R-O/O-R				3
0T/0R E/M	34/9 36/11	R-BR/BR-R BK-BL/BL-BK	slot 3	slot 6	slot 9	0
1T/1R E/M	38/13 40/15	BK-G/G-BK BK-S/S-BK				1
2T/2R E/M	42/17 44/19	Y-O/O-Y Y-BR/BR-Y				2
3T/3R E/M	46/21 48/23	V-BL/BL-V V-G/BR-G				3

Table 132
NT8D11 CE/PE Module: NT8D15 4-wire type 1 and type 2 mode pair-terminations for connectors A, B, E, and H (7-cable)

Lead designations		Pins	Pair color	I/O panel connectors				Unit
Type 1	Type 2			A	B	E	H	
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	26/1 27/2 28/3 29/4	W-BL/BL-W W-O/O-W W-G/G-W W-BR/BR-W	slot 0	slot 1	slot 4	slot 7	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	30/5 31/6 32/7 33/8	W-S/S-W R-BL/BL-R R-O/O-R R-G/G-R					1
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	34/9 35/10 36/11 37/12	R-BR/BR-R R-S/S-R BK-BL/BL-BK BK-O/O-BK					2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	38/13 39/14 40/15 41/16	BK-G/G-BK BK-BR/BR-BK BK-S/S-BK Y-BL/BL-Y					3
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	42/17 43/18 44/19 45/20	Y-O/O-Y Y-G/G-Y Y-BR/BR-Y Y-S/S-Y	spare	slot 2	slot 5	slot 8	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	46/21 47/22 48/23 49/24	V-BL/BL-V V-O/O-V V-G/G-V V-BR/BR-V					1
Note: TA/TB is the transmit pair; RA/RB is the receive pair.								

Table 133**NT8D11 CE/PE Module: NT8D15 4-wire type 1 and type 2 mode pair-terminations for connectors C, F, and K (7-cable)**

Lead designations		Pins	Pair color	I/O panel connectors			Unit
Type 1	Type 2			C	F	K	
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	26/1 27/2 28/3 29/4	W-BL/BL-W W-O/O-W W-G/G-W W-BR/BR-W	slot 2	slot 5	slot 8	2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	30/5 31/6 32/7 33/8	W-S/S-W R-BL/BL-R R-O/O-R R-G/G-R				3
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	34/9 35/10 36/11 37/12	R-BR/BR-R R-S/S-R BK-BL/BL-BK BK-O/O-BK	slot 3	slot 6	slot 9	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	38/13 39/14 40/15 41/16	BK-G/G-BK BK-BR/BR-BK BK-S/S-BK Y-BL/BL-Y				1
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	42/17 43/18 44/19 45/20	Y-O/O-Y Y-G/G-Y Y-BR/BR-Y Y-S/S-Y				2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	46/21 47/22 48/23 49/24	V-BL/BL-V V-O/O-V V-G/G-V V-BR/BR-V				3
Note: TA/TB is the transmit pair; RA/RB is the receive pair.							

Table 134
NT8D37 IPE Module: line card pair-terminations for connectors A, E, K, and R (12-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit 16/card
			A	E	K	R	
1T/1R	26/1	W-BL/BL-W	slot 0	slot 4	slot 8	slot 12	0
2T/2R	27/2	W-O/O-W					1
3T/3R	28/3	W-G/G-W					2
4T/4R	29/4	W-BR/BR-W					3
5T/5R	30/5	W-S/S-W					4
6T/6R	31/6	R-BL/BL-R					5
7T/7R	32/7	R-O/O-R					6
8T/8R	33/8	R-G/G-R					7
9T/9R	34/9	R-BR/BR-R					8
10T/10R	35/10	R-S/S-R					9
11T/11R	36/11	BK-BL/BL-BK					10
12T/12R	37/12	BK-O/O-BK					11
13T/13R	38/13	BK-G/G-BK					12
14T/14R	39/14	BK-BR/BK-BR					13
15T/15R	40/15	BK-S/S-BK					14
16T/16R	41/16	Y-BL/BL-Y					15

Table 135**NT8D37 IPE Module: line card pair-terminations for connectors B, F, L, and S (12-cable)**

Pair	Pins	Pair color	I/O panel connectors				Unit 16/card
			B	F	L	S	
1T/1R	26/1	W-BL/BL-W	slot 1	slot 5	slot 9	slot 13	0
2T/2R	27/2	W-O/O-W					1
3T/3R	28/3	W-G/G-W					2
4T/4R	29/4	W-BR/BR-W					3
5T/5R	30/5	W-S/S-W					4
6T/6R	31/6	R-BL/BL-R					5
7T/7R	32/7	R-O/O-R					6
8T/8R	33/8	R-G/G-R					7
9T/9R	34/9	R-BR/BR-R					8
10T/10R	35/10	R-S/S-R					9
11T/11R	36/11	BK-BL/BL-BK					10
12T/12R	37/12	BK-O/O-BK					11
13T/13R	38/13	BK-G/G-BK					12
14T/14R	39/14	BK-BR/BK-BR					13
15T/15R	40/15	BK-S/S-BK					14
16T/16R	41/16	Y-BL/BL-Y					15
17T / 17R	42 / 17	Y-O / O-Y	slot 2	slot 6	slot 10	slot 14	0
18T / 18R	43 / 18	Y-G / G-Y					1
19T / 19R	44 / 19	Y-BR / BR-Y					2
20T / 20R	45 / 20	Y-S / S-Y					3
21T / 21R	46 / 21	V-BL / BL-V					4
22T / 22R	47 / 22	V-O / V-O					5
23T / 23R	48 / 23	V-G / G-V					6
24T / 24R	49 / 24	V-BR / BR-V					7
25T / 25R	50 / 25	V-S / S-V					Spare

Table 136
NT8D37 IPE Module: line card pair-terminations for connectors C, G, M, and T (12-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit 16/card
			C	G	M	T	
1T/1R	26/1	W-BL/BL-W	slot 2	slot 6	slot 10	slot 14	8
2T/2R	27/2	W-O/O-W					9
3T/3R	28/3	W-G/G-W					10
4T/4R	29/4	W-BR/BR-W					11
5T/5R	30/5	W-S/S-W					12
6T/6R	31/6	R-BL/BL-R					13
7T/7R	32/7	R-O/O-R					14
8T/8R	33/8	R-G/G-R					15
9T / 9R	34 / 9	R-BR / BR-R	slot 3	slot 7	slot 11	slot 15	0
10T / 10R	35 / 10	R-S / S-R					1
11T / 11R	36 / 11	BK-BL / BL-BK					2
12T / 12R	37 / 12	BK-O / O-BK					3
13T / 13R	38 / 13	BK-G / G-BK					4
14T / 14R	39 / 14	BK-BR / BK-BR					5
15T / 15R	40 / 15	BK-S / S-BK					6
16T / 16R	41 / 16	Y-BL / BL-Y					7
17T / 17R	42 / 17	Y-O / O-Y					8
18T / 18R	43 / 18	Y-G / G-Y					9
19T / 19R	44 / 19	Y-BR / BR-Y					10
20T / 20R	45 / 20	Y-S / S-Y					11
21T / 21R	46 / 21	V-BL / BL-V					12
22T / 22R	47 / 22	V-O / V-O					13
23T / 23R	48 / 23	V-G / G-V					14
24T / 24R	49 / 24	V-BR / BR-V					15
25T / 25R	50 / 25	V-S / S-V					Spare

Table 137**NT8D37 IPE Module: NT8D14 pair-terminations for connectors A, E, K, and R (12-cable)**

Lead designations			Pins	Pair color	I/O panel connectors				Unit
RAN mode	Paging mode	Other modes			A	E	K	R	
0T/0R CP/MB	0T/0R A/PG	0T/0R	26/1 27/2	W-BL/BL-W W-O/O-W	slot 0	slot 4	slot 8	slot 12	0
1T/1R CP/MB	1T/1R A/PG	1T/1R	28/3 29/4	W-G/G-W W-BR/BR-W					1
2T/2R CP/MB	2T/2R A/PG	2T/2R	30/5 31/6	W-S/S-W R-BL/BL-R					2
3T/3R CP/MB	3T/3R A/PG	3T/3R	32/7 33/8	R-O/O-R R-G/G-R					3
4T/4R CP/MB	4T/4R A/PG	4T/4R	34/9 35/10	R-BR/BR-R R-S/S-R					4
5T/5R CP/MB	5T/5R A/PG	5T/5R	36/11 37/12	BK-BL/BL-BK BK-O/O-BK					5
6T/6R CP/MB	6T/6R A/PG	6T/6R	38/13 39/14	BK-G/G-BK BK-BR/BK-BR					6
7T/7R CP/MB	7T/7R A/PG	7T/7R	40/15 41/16	BK-S/S-BK Y-BL/BL-Y					7
Note: Use LD 14 to select trunk termination impedance (600 ohm or 900 ohm). See the <i>X11 input/output guide</i> for information on LD 14.									

Table 138

NT8D37 IPE Module: NT8D14 pair-terminations for connectors B, F, L, and S (12-cable)

Lead designations			Pins	Pair color	I/O panel connectors				Unit
RAN mode	Paging mode	Other modes			B	F	L	S	
0T/0R CP/MB	0T/0R A/PG	0T/0R	26/1 27/2	W-BL/BL-W W-O/O-W	slot 1	slot 5	slot 9	slot 13	0
1T/1R CP/MB	1T/1R A/PG	1T/1R	28/3 29/4	W-G/G-W W-BR/BR-W					1
2T/2R CP/MB	2T/2R A/PG	2T/2R	30/5 31/6	W-S/S-W R-BL/BL-R					2
3T/3R CP/MB	3T/3R A/PG	3T/3R	32/7 33/8	R-O/O-R R-G/G-R					3
4T/4R CP/MB	4T/4R A/PG	4T/4R	34/9 35/10	R-BR/BR-R R-S/S-R					4
5T/5R CP/MB	5T/5R A/PG	5T/5R	36/11 37/12	BK-BL/BL-BK BK-O/O-BK					5
6T/6R CP/MB	6T/6R A/PG	6T/6R	38/13 39/14	BK-G/G-BK BK-BR/BK-BR					6
7T/7R CP/MB	7T/7R A/PG	7T/7R	40/15 41/16	BK-S/S-BK Y-BL/BL-Y					7
0T/0R CP/MB	0T/0R A/PG	0T/0R	42/17 43/18	Y-O/O-Y Y-G/G-Y	slot 2	slot 6	slot 10	slot 14	0
1T/1R CP/MB	1T/1R A/PG	1T/1R	44/19 45/20	Y-BR/BR-Y Y-S/S-Y					1
2T/2R CP/MB	2T/2R A/PG	2T/2R	46/21 47/22	V-BL/BL-V V-O/V-O					2
3T/3R CP/MB	3T/3R A/PG	3T/3R	48/23 49/24	V-G/G-V V-BR/BR-V					3
Note: Use LD 14 to select trunk termination impedance (600 ohm or 900 ohm). See the <i>X11 input/output guide</i> for information on LD 14.									

Table 139**NT8D37 IPE Module: NT8D14 pair-terminations for connectors C, G, M, and T (12-cable)**

Lead designations			Pins	Pair color	I/O panel connectors				Unit
RAN mode	Paging mode	Other modes			C	G	M	T	
0T/0R CP/MB	0T/0R A/PG	0T/0R	26/1 27/2	W-BL/BL-W W-O/O-W	slot 2	slot 6	slot 10	slot 14	4
1T/1R CP/MB	1T/1R A/PG	1T/1R	28/3 29/4	W-G/G-W W-BR/BR-W					5
2T/2R CP/MB	2T/2R A/PG	2T/2R	30/5 31/6	W-S/S-W R-BL/BL-R					6
3T/3R CP/MB	3T/3R A/PG	3T/3R	32/7 33/8	R-O/O-R R-G/G-R					7
4T/4R CP/MB	4T/4R A/PG	4T/4R	34/9 35/10	R-BR/BR-R R-S/S-R	slot 3	slot 7	slot 11	slot 15	0
5T/5R CP/MB	5T/5R A/PG	5T/5R	36/11 37/12	BK-BL/BL-BK BK-O/O-BK					1
6T/6R CP/MB	6T/6R A/PG	6T/6R	38/13 39/14	BK-G/G-BK BK-BR/BK-BR					2
7T/7R CP/MB	7T/7R A/PG	7T/7R	40/15 41/16	BK-S/S-BK Y-BL/BL-Y					3
0T/0R CP/MB	0T/0R A/PG	0T/0R	42/17 43/18	Y-O/O-Y Y-G/G-Y					4
1T/1R CP/MB	1T/1R A/PG	1T/1R	44/19 45/20	Y-BR/BR-Y Y-S/S-Y					5
2T/2R CP/MB	2T/2R A/PG	2T/2R	46/21 47/22	V-BL/BL-V V-O/V-O					6
3T/3R CP/MB	3T/3R A/PG	3T/3R	48/23 49/24	V-G/G-V V-BR/BR-V					7
Note: Use LD 14 to select trunk termination impedance (600 ohm or 900 ohm). See the <i>X11 input/output guide</i> for information on LD 14.									

Table 140
NT8D37 IPE Module: NT8D15 2-wire paging mode pair-terminations for connectors A, E, K, and R (12-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit
			A	E	K	R	
0T/0R A/PG	26/1 29/4	W-BL/BL-W W-BR/BR-W	slot 0	slot 4	slot 8	slot 12	0
1T/1R A/PG	30/5 33/8	W-S/S-W R-G/G-R					1
2T/2R A/PG	34/9 37/12	R-BR/BR-R BK-O/O-BK					2
3T/3R A/PG	38/13 41/16	BK-G/G-BK Y-BL/BL-Y					3

Table 141
NT8D37 IPE Module: NT8D15 2-wire paging mode pair-terminations for connectors B, F, L, and S (12-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit
			B	F	L	S	
0T/0R A/PG	26/1 29/4	W-BL/BL-W W-BR/BR-W	slot 1	slot 5	slot 9	slot 13	0
1T/1R A/PG	30/5 33/8	W-S/S-W R-G/G-R					1
2T/2R A/PG	34/9 37/12	R-BR/BR-R BK-O/O-BK					2
3T/3R A/PG	38/13 41/16	BK-G/G-BK Y-BL/BL-Y					3
0T/0R A/PG	42/17 45/20	Y-O/O-Y Y-S/S-Y	slot 2	slot 6	slot 10	slot 14	0
1T/1R A/PG	46/21 49/24	V-BL/BL-V V-BR/BR-V					1

Table 142**NT8D37 IPE Module: NT8D15 2-wire paging mode pair-terminations for connectors C, G, M, and T (12-cable)**

Pair	Pins	Pair color	I/O panel connectors				Unit
			C	G	M	T	
2T/2R A/PG	26/1 29/4	W-BL/BL-W W-BR/BR-W	slot 2	slot 6	slot 10	slot 14	2
3T/3R A/PG	30/5 33/8	W-S/S-W R-G/G-R					3
0T/0R A/PG	34/9 37/12	R-BR/BR-R BK-O/O-BK	slot 3	slot 7	slot 11	slot 15	0
1T/1R A/PG	38/13 41/16	BK-G/G-BK Y-BL/BL-Y					1
2T/2R A/PG	42/17 45/20	Y-O/O-Y Y-S/S-Y					2
3T/3R A/PG	46/21 49/24	V-BL/BL-V V-BR/BR-V					3

Table 143**NT8D37 IPE Module: NT8D15 2-wire type 1 mode pair-terminations for connectors A, E, K, and R (12-cable)**

Pair	Pins	Pair color	I/O panel connectors				Unit
			A	E	K	R	
0T/0R E/M	26/1 28/3	W-BL/BL-W W-G/G-W	slot 0	slot 4	slot 8	slot 12	0
1T/1R E/M	30/5 32/7	W-S/S-W R-O/O-R					1
2T/2R E/M	34/9 36/11	R-BR/BR-R BK-BL/BL-BK					2
3T/3R E/M	38/13 40/15	BK-G/G-BK BK-S/S-BK					3

Table 144
NT8D37 IPE Module: NT8D15 2-wire type 1 mode pair-terminations for connectors B, F, L, and S (12-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit
			B	F	L	S	
0T/0R E/M	26/1 28/3	W-BL/BL-W W-G/G-W	slot 1	slot 5	slot 9	slot 13	0
1T/1R E/M	30/5 32/7	W-S/S-W R-O/O-R					1
2T/2R E/M	34/9 36/11	R-BR/BR-R BK-BL/BL-BK					2
3T/3R E/M	38/13 40/15	BK-G/G-BK BK-S/S-BK					3
0T/0R E/M	42/17 44/19	Y-O/O-Y Y-BR/BR-Y	slot 2	slot 6	slot 10	slot 14	0
1T/1R E/M	46/21 48/23	V-BL/BL-V V-G/G-V					1

Table 145
NT8D37 IPE Module: NT8D15 2-wire type 1 mode pair-terminations for connectors C, G, M, and T (12-cable)

Pair	Pins	Pair color	I/O panel connectors				Unit
			C	G	M	T	
0T/0R E/M	26/1 28/3	W-BL/BL-W W-G/G-W	slot 2	slot 6	slot 10	slot 14	2
1T/1R E/M	30/5 32/7	W-S/S-W R-O/O-R					3
2T/2R E/M	34/9 36/11	R-BR/BR-R BK-BL/BL-BK	slot 3	slot 7	slot 11	slot 15	0
3T/3R E/M	38/13 40/15	BK-G/G-BK BK-S/S-BK					1
0T/0R E/M	42/17 44/19	Y-O/O-Y Y-BR/BR-Y					2
1T/1R E/M	46/21 48/23	V-BL/BL-V V-G/BR-G					3

Table 146

NT8D37 IPE Module: NT8D15 4-wire type 1 and type 2 mode pair-terminations for connectors A, E, K, and R (12-cable)

Lead designations		Pins	Pair color	I/O panel connectors				Unit
Type 1	Type 2			A	E	K	R	
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	26/1 27/2 28/3 29/4	W-BL/BL-W W-O/O-W W-G/G-W W-BR/BR-W	slot 0	slot 4	slot 8	slot 12	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	30/5 31/6 32/7 33/8	W-S/S-W R-BL/BL-R R-O/O-R R-G/G-R					1
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	34/9 35/10 36/11 37/12	R-BR/BR-R R-S/S-R BK-BL/BL-BK BK-O/O-BK					2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	38/13 39/14 40/15 41/16	BK-G/G-BK BK-BR/BR-BK BK-S/S-BK Y-BL/BL-Y					3
Note: TA/TB is the transmit pair; RA/RB is the receive pair.								

Table 147
NT8D37 IPE Module: NT8D15 4-wire type 1 and type 2 mode pair-terminations for connectors B, F, L, and S (12-cable)

Lead designations		Pins	Pair color	I/O panel connectors				Unit
Type 1	Type 2			B	F	L	S	
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	26/1 27/2 28/3 29/4	W-BL/BL-W W-O/O-W W-G/G-W W-BR/BR-W	slot 1	slot 5	slot 9	slot 13	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	30/5 31/6 32/7 33/8	W-S/S-W R-BL/BL-R R-O/O-R R-G/G-R					1
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	34/9 35/10 36/11 37/12	R-BR/BR-R R-S/S-R BK-BL/BL-BK BK-O/O-BK					2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	38/13 39/14 40/15 41/16	BK-G/G-BK BK-BR/BR-BK BK-S/S-BK Y-BL/BL-Y					3
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	42/17 43/18 44/19 45/20	Y-O/O-Y Y-G/G-Y Y-BR/BR-Y Y-S/S-Y	slot 2	slot 6	slot 10	slot 14	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	46/21 47/22 48/23 49/24	V-BL/BL-V V-O/O-V V-G/G-V V-BR/BR-V					1
Note: TA/TB is the transmit pair; RA/RB is the receive pair.								

Table 148**NT8D37 IPE Module: NT8D15 4-wire type 1 and type 2 mode pair-terminations for connectors C, G, M, and T (12-cable)**

Lead designations		Pins	Pair color	I/O panel connectors				Unit
Type 1	Type 2			C	G	M	T	
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	26/1 27/2 28/3 29/4	W-BL/BL-W W-O/O-W W-G/G-W W-BR/BR-W	slot 2	slot 6	slot 10	slot 14	2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	30/5 31/6 32/7 33/8	W-S/S-W R-BL/BL-R R-O/O-R R-G/G-R					3
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	34/9 35/10 36/11 37/12	R-BR/BR-R R-S/S-R BK-BL/BL-BK BK-O/O-BK	slot 3	slot 7	slot 11	slot 15	0
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	38/13 39/14 40/15 41/16	BK-G/G-BK BK-BR/BR-BK BK-S/S-BK Y-BL/BL-Y					1
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	42/17 43/18 44/19 45/20	Y-O/O-Y Y-G/G-Y Y-BR/BR-Y Y-S/S-Y					2
TA/TB RA/RB E/M ESC/ESCG	TA/TB RA/RB EA/EB MA/MB	46/21 47/22 48/23 49/24	V-BL/BL-V V-O/O-V V-G/G-V V-BR/BR-V					3
Note: TA/TB is the transmit pair; RA/RB is the receive pair.								

Backplane cable expansion

You can reconfigure NT8D11 (AC and DC vintage) CE/PE and NT8D37 (AA and DC vintage) IPE Modules for expanded cabling. By adding and reconfiguring cable ends in the backplane slots, 24 pairs can be connected to each backplane slot.

Note: When backplane slots are reconfigured for expanded cabling, the labeling for NT8D11 CE/PE and NT8D37 IPE Modules must be changed at the MDF to reflect the change in the backplane slots.

To cable lines and trunks with expanded backplane configurations, go to “Cabling lines and trunks” on page 217.

NT8D11 CE/PE Modules

In the NT8D11 Modules, cabling for the first four IPE slots can be expanded using one NT8D81AA Cable/Filter Assembly. Cabling for all of the IPE slots can be expanded using three NT8D81AA Cable/Filter Assemblies.

Note: The first IPE slot is already fully cabled for 24 pairs, so no change is required for that slot.

NT8D11 backplane cable expansion: first four IPE slots only

- 1 Leave cable A as is in slot position L0.
- 2 Move cable end B-3 to slot position L1-3.
- 3 Remove cable C from the backplane and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2, and L2-3.
- 4 Add cable D to the I/O panel by connecting cable ends D-1, D-2, and D-3 to slot positions L3-1, L3-2, and L3-3.

Note: Cables E, F, H, and K remain the same. Cable positions G and L are open for further expansion.

- 5 Label the MDF for one cable for each of the first four IPE slots.

NT8D11 backplane cable expansion: all IPE slots

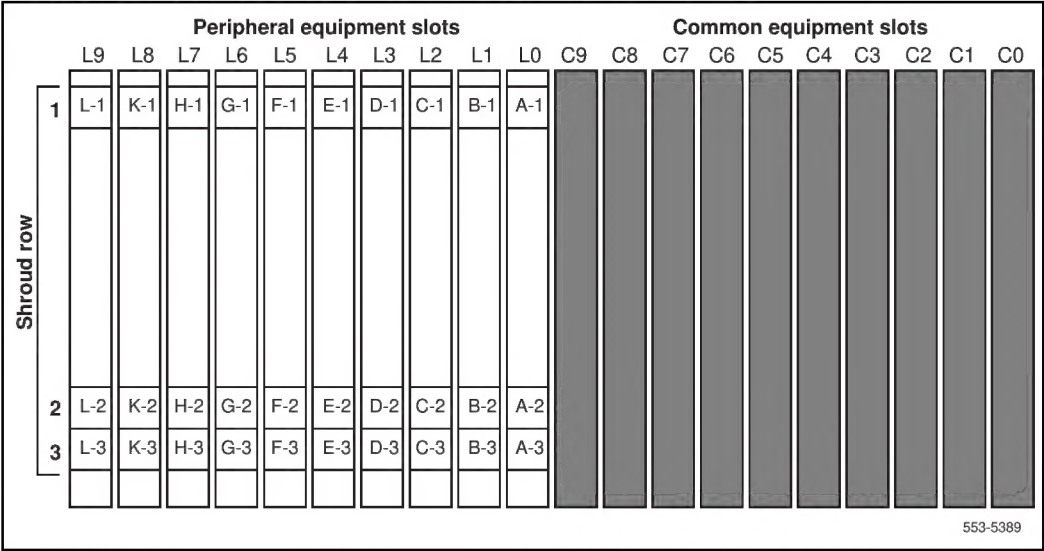
- 1** Leave cable A as is in slot position L0.
- 2** Move cable end B-3 to slot position L1-3.
- 3** Remove cable C from the backplane and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2, and L2-3.
- 4** Add cable D to the I/O panel by connecting cable ends D-1, D-2, and D-3 to slot positions L3-1, L3-2, and L3-3.
- 5** Move cable end E-3 to slot position L4-3.
- 6** Remove cable F from the backplane and connect cable ends F-1, F-2, and F-3 to slot positions L5-1, L5-2, and L5-3.
- 7** Add cable G to the I/O panel by connecting cable ends G-1, G-2, and G-3 to slot positions L6-1, L6-2, and L6-3.
- 8** Move cable end H-3 to slot position L7-3.
- 9** Remove cable K from the backplane and connect cable ends K-1, K-2, and K-3 to slot positions L9-1, L9-2, and L9-3.
- 10** Add cable L to the I/O panel by connecting cable ends L-1, L-2, and L-3 to slot positions L9-1, L9-2, and L9-3.
- 11** Label the MDF to show one cable for each PE slot.

Table 149 lists cable connections for an expanded configuration.
 Figure 193 shows the backplane slots in an expanded configuration.

Table 149
NT8D11 cable connections: expanded configuration

Backplane slots-shroud rows	I/O panel/cable designation
L0-1, 2, 3	A
L1-1, 2, 3	B
L2-1, 2, 3	C
L3-1, 2, 3	D (new cable)
L4-1, 2, 3	E
L5-1, 2, 3	F
L6-1, 2, 3	G (new cable)
L7-1, 2, 3	H
L8-1, 2, 3	K
L9-1, 2, 3	L (new cable)

Figure 193
NT8D11 backplane cable designations: expanded configuration



NT8D37 IPE Modules

In the NT8D37 Modules, cabling for each segment can be expanded using one NT8D81AA Cable/Filter Assembly. Cabling for the whole backplane can be expanded using four NT8D81AA Cable/Filter Assemblies.

Note: Backplane slots 0, 4, 8, and 12 (for cables A, E, K, and R) are already fully cabled for 24 pairs, so no change is required to those slots.

NT8D37 backplane cable expansion: Segment 0

- 1 Leave cable A as is in slot position L0.
- 2 Move cable end B-3 to slot position L1-3.
- 3 Remove cable C from the backplane and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2, and L2-3.
- 4 Add cable D to the I/O panel by connecting cable ends D-1, D-2, and D-3 to slot positions L3-1, L3-2, and L3-3.

NT8D37 backplane cable expansion: Segment 1

- 1 Leave cable E as is in slot position L4.
- 2 Move cable end F-3 to slot position L5-3.
- 3 Remove cable G from the backplane and connect cable ends G-1, G-2, and G-3 to slot positions L6-1, L6-2, and L6-3.
- 4 Add cable H to the I/O panel by connecting cable ends H-1, H-2, and H-3 to slot positions L7-1, L7-2, and L7-3.

NT8D37 backplane cable expansion: Segment 2

- 1 Leave cable K as is in slot position L8.
- 2 Move cable end L-3 to slot position L9-3.
- 3 Remove cable M from the backplane and connect cable ends M-1, M-2, and M-3 to slot positions L10-1, L10-2, and L10-3.
- 4 Add cable N to the I/O panel by connecting cable ends N-1, N-2, and N-3 to slot positions L11-1, L11-2, and L11-3.

NT8D37 backplane cable expansion: Segment 3

- 1 Leave cable R as is in slot position L12.
- 2 Move cable end S-3 to slot position L13-3.
- 3 Remove cable T from the backplane and connect cable ends T-1, T-2, and T-3 to slot positions L14-1, L14-2, and L14-3.
- 4 Add cable U to the I/O panel by connecting cable ends U-1, U-2, and U-3 to slot positions L15-1, L15-2, and L15-3.

[Table 150](#) lists cable connections for a fully expanded configuration.
[Figure 194](#) shows the backplane slots in a fully expanded configuration.

Table 150
NT8D37 cable connections: expanded configuration

Backplane slots-shroud rows	I/O panel/cable designation
L0-1, 2, 3	A
L1-1, 2, 3	B
L2-1, 2, 3	C
L3-1, 2, 3	D (new cable)
L4-1, 2, 3	E
L5-1, 2, 3	F
L6-1, 2, 3	G
L7-1, 2, 3	H (new cable)
L8-1, 2, 3	K
L9-1, 2, 3	L
L10-1, 2, 3	M
L11-1, 2, 3	N (new cable)
L12-1, 2, 3	R
L13-1, 2, 3	S
L14-1, 2, 3	T
L15-1, 2, 3	U (new cable)

Figure 194
NT8D37 backplane cable designations: expanded configuration

			Segment 3					Segment 2				Segment 1				Segment 0						
			L16	L15	L14	L13	L12	L11	L10	L9	L8			L7	L6	L5	L4	L3	L2	L1	L0	
Shroud row	1			U-1	T-1	S-1	R-1	N-1	M-1	L-1	K-1				H-1	G-1	F-1	E-1	D-1	C-1	B-1	A-1
	2		U-2	T-2	S-2	R-1	N-2	M-2	L-2	K-2				H-2	G-2	F-2	E-2	D-2	C-2	B-2	A-2	
	3		U-3	T-3	S-3	R-1	N-3	M-3	L-3	K-3				H-3	G-3	F-3	E-3	D-3	C-3	B-3	A-3	

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